REMARKS

Claims 1-19 are pending in the application. It is gratefully acknowledged that the Examiner has found allowable subject matter in Claims 4, 7, 10, 13, 16 and 19. The Examiner has objected to the drawings under 37 C.F.R. §1.83(a) for failing to show every feature of the invention specified in the claims. The Examiner has objected to Claims 2 and 6 because of informalities. The Examiner has rejected Claims 1 and 2 under 35 U.S.C. §103(a) as being unpatentable over Lundby et al. (U.S. Patent 6,690,734) in view of Chouly et al. (U.S. Patent 6,052,821). The Examiner has rejected Claim 3 under 35 U.S.C. §103(a) as being unpatentable over Lundby et al. in view of Chouly et al., and further in view of Eroz et al. (U.S. Patent 6,665,829).

Please amend Claims 2 and 6 as set forth herein. No new matter has been added.

Regarding the Examiner's treatment of Claims 5, 6, 8, 9, 11, 12, 14, 15, 17 and 18, the Examiner states on page 6 of the Office Action, "Method claims 5-6, 8-9 and apparatus claims 11-12, 14-15, 17-18 are analyzed similarly to apparatus claims 3 and 2 respectively." This is the only sentence in the entire Office Action containing any mention of Claims 5, 6, 8, 9, 11, 12, 14, 15, 17 and 18. First, this is clearly an improper rejection. M.P.E.P. 707.07(d) Language To Be Used in Rejecting Claims, sets forth at least the minimum requirements of a proper rejection, and states in part:

> Where a claim is refused for any reason relating to the merits thereof it should be "rejected" and the ground of rejection fully and clearly stated, and the word "reject" must be used. The examiner should designate the *statutory basis* for any ground of rejection by express reference to a section of 35 U.S.C. in the opening sentence of each ground of rejection. If the claim is rejected as broader than the enabling disclosure, the reason for so holding should be given; if rejected as indefinite the examiner should point out wherein the indefiniteness resides; or if rejected as incomplete, the element or elements lacking should be specified, or

the applicant be otherwise advised as to what the claim requires to render it complete.

Since the Examiner has not even approached this bare minimum of requirements, at this point in time it is respectfully submitted that Claims 5, 6, 8, 9, 11, 12, 14, 15, 17 and 18 should be considered as allowable unless and until proper rejections are presented.

Additionally, M.P.E.P. 707.07(d) requires that:

An omnibus rejection of the claim "on the references and for the reasons of record" is stereotyped and usually not informative and should therefore be avoided. This is especially true where certain claims have been rejected on one ground and other claims on another ground.

A plurality of claims should never be grouped together in a common rejection, unless that rejection is equally applicable to all claims in the group.

The Examiner's omnibus statement must also fail the test for a proper rejection.

And finally on this point, "similarly" is not and cannot be the basis of any rejection.

Applicants respectfully request a proper examination of Claims 5, 6, 8, 9, 11, 12, 14, 15, 17 and 18, or an allowance thereof.

Regarding the Examiner objection to the drawings, the Examiner states that FIGs. 24 and 25 fail to show how the controller determines a minimum data rate. Since the operation of an electronic device (i.e. a controller) is not a structural detail within the meaning of 37 C.F.R. §1.83(a), the objection is meaningless. It is respectfully submitted that the only structural detail that is essential for a proper understanding of the invention is that the controller is connected to the sub-code generator and either the pruner or modulator as shown in FIGs. 24 and 25. No other structural detail is required.

Based on at least the foregoing, the objection to the drawings be withdrawn.

Regarding the objections to Claims 2 and 6, the Examiner states that, "wherein symbol pruning is performed on second half of the modulation symbols of the sub-code" should read, "wherein symbol pruning is performed on **the** second half of the modulation symbols of the sub-code." Although the Examiner's concern is noted, her suggestion is believed to be incorrect. Claims 2 and 6 have been amended to read, "wherein symbol pruning is performed on **a** second half of the modulation symbols of the sub-code."

Based on at least the foregoing, withdrawal of the objection to Claims 2 and 6 is respectfully requested.

Turning now to the properly rejected independent claim, namely Claim 1, the Examiner states that Lundby et al. in view of Chouly et al. renders the claim obvious. Lundby et al. discloses a method and apparatus for puncturing code symbols in a communications system; and, Chouly et al. discloses a trellis coded QAM using rate compatible, punctured, convolutional codes.

First, Claim 1 is directed to a method for pruning part of the channel-interleaved symbols so that the number of channel-interleaved symbols is equal to the number of transmittable modulation symbols. Pruning is clearly defined throughout the specification as a discontinuation of symbols at a predetermined time point, for example at page 6, page 45, FIGs. 6 through 23 and their associated text. Since puncturing is not pruning, and none of the references disclose pruning, the rejections must fail.

Moreover, paragraphs [0154]-[0160] of the specification of the present application disclose three conditions for efficiently transmitting packets at the time of retransmission in a mobile communication system supporting HARQ. The optimal method for satisfying the three conditions is to make the length of sub-codes according to each code rate equal to that of

transmission frames. However, the frame length is a parameter determined by the specification of a physical channel. To make the length of sub-codes equal to that of the transmission frames is not that simple or easy, as described in the paragraphs [161]-[165] of the present application. For example, a conventional method of adding padding bits causes the reduction of system throughput, and another method of successively transmitting codewords having different code rates from each other and identifying each codeword on a codeword basis in a receiver causes great difficulty in realizing the receiver. In order to solve these problems, the present invention suggests a method of pruning symbols, which are not assigned to a transmission frame, from among the modulation symbols of sub-codes, and has the technical feature of using a minimum code rate as a code rate of each sub-code for minimizing the number of symbols to be pruned.

In this regard, the Examiner acknowledges that Lundby et al. fails to teach that the modulation symbols generated by a predetermined modulation method are equal to or greater than the number of transmittable modulation symbols for each time period, and pruning part of the modulation symbols of the sub-code, as recited in Claim 1. The Examiner states that Chouly et al. discloses this element. But, the Examiner then goes on to state that Chouly et al. only discloses "modulation symbols" and all of the remaining elements of Claim 1 are either "obvious" or "equally obvious" to one skilled in the art, without providing any support therefore. These statements made by the Examiner do not present a proper rejection under M.P.E.P. 706.02(j), and in particular, this section states in part:

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck,* 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir.

1991). See MPEP § 2143 - § 2143.03 for decisions pertinent to each of these criteria.

Since the Examiner has failed to meet the statutory requirements for a proper rejection, the rejections must be withdrawn.

Finally, the claims of the present application disclose generating sub-codes with a minimum code rate and pruning and transmitting modulation symbols of the sub-codes in order to transmit one sub-code by matching its length to one transmission frame length, and thereby minimizing the complexity of a receiver and simplifying a transmission protocol for a transmitter. These effects of the present invention are neither taught nor suggested by any of the references, alone or in combination.

Based on at least the foregoing, withdrawal of the rejection of Claim 1 is respectfully requested.

Independent Claims 1, 5, 8, 11, 14 and 17 are believed to be in condition for allowance. Without conceding the patentability per se of dependent Claims 2-4, 6, 7, 9, 10, 12, 13, 15, 16, 18 and 19, these are likewise believed to be allowable by virtue of their dependence on their respective amended independent claims. Accordingly, reconsideration and withdrawal of the rejections of dependent Claims 2-4, 6, 7, 9, 10, 12, 13, 15, 16, 18 and 19 is respectfully requested.

Accordingly, all of the claims pending in the Application, namely, Claims 1-19, are believed to be in condition for allowance. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicants' attorney at the number given below.

Respectfully submitted,

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